

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently amended). A method for generating O1⁺ and/or O4⁺ oligodendrocytes, ~~suitable for repairing damage caused by demyelinating diseases,~~ comprising growing embryonic stem (ES), embryoid bodies (EB) derived from ES cells and/or neurosphere (NS) cells ~~derived from ES or EB cells in the presence~~ in a culture medium that promotes differentiation of NS cells into O1⁺ and/or O4⁺ oligodendrocytes, said culture medium comprising of one or more gp130 activators selected from the group consisting of CNTF, oncostatin-M (OSM) OSM, IL-6, IL6R/IL6 chimera and IL-11, thereby causing the NS cells to differentiate into O1⁺ and/or O4⁺ oligodendrocytes.

2 (Cancelled).

3 (Currently Amended). The method according to claim 2, wherein the ~~gp-130~~gp130 activator is IL-6.

4 (Cancelled).

5 (Currently Amended). The method according to claim 41, wherein the cells are dissociated NS cells.

6 (Cancelled).

7 (Currently Amended). The method according to
claim 1, wherein ~~the oligodendrocyte~~ oligodendrocytes ~~is~~ of
O1+O1⁺ lineage are generated.

8 (Currently Amended). The method according to
claim 1, wherein ~~the oligodendrocyte~~ oligodendrocytes ~~is~~ of
O4+O4⁺ lineage are generated.

9-53 (Cancelled).

54 (New). A method in accordance with claim 1,
wherein said one or more gp130 activators is the only growth
or differentiation agent present in the culture medium.

55 (New). A method in accordance with claim 1,
wherein said NS cells are human NS cells